

# Mid-Atlantic Transportation and Environmental Streamlining Process A Framework for Change In the 21st Century

## Environmental Streamlining Process Guide



Mid-Atlantic  
Transportation  
and  
Environment  
Task Force

May 2000







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# A Framework for Change In the 21st Century

## Mid-Atlantic Transportation and Environmental Streamlining Process

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## INTRODUCTION





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## Executive Summary

On January 27, 1999, State and Federal transportation and environmental agencies from the Mid-Atlantic Region, including Maryland, Delaware, Pennsylvania, West Virginia, and Virginia, gathered at an Executive Summit in Philadelphia, Pennsylvania to discuss the feasibility of streamlining the environmental review process for transportation project development. As a result of the Executive Summit, the agencies signed the Cooperative Agreement on Environmental Streamlining and Interagency Cooperation on Environmental and Transportation Issues. The agreement provides the foundation for the goals set forth at the Executive Summit and supports the provisions of the Transportation Equity Act for the 21st Century (TEA-21). The goals seek to encourage a streamlined process that advocates a timely, cost-effective, environmentally sound transportation project development process, and to develop a foundation for interagency coordination and cooperation on environmental and transportation issues.

The process established through this partnership is intended for use as a general framework that applies to all States. The Mid-Atlantic Transportation and Environment (MATE) Task Force has developed a streamlined process that is specific enough to ensure its effective implementation in all States, yet allows the States to fit their individual project development processes into its framework. The most significant product of this effort is the integration of additional permitting and environmental review processes with the 1992 Integrated NEPA/404 process. This process should be used as a tool for improving communication among environmental and transportation agencies, increasing the efficiency of the transportation project development process through concurrent environmental reviews, and as a mechanism for avoiding or resolving interagency disputes.

The partners involved in streamlining the process, including transportation, resource, and regulatory agencies, have identified several causes of delays in the environmental review process. As a result, the task force members have worked cooperatively to find solutions that allow agencies to overcome delays and to develop a truly effective system for environmental review and transportation project development.





## DEFINITION OF ENVIRONMENTAL STREAMLINING



*A cooperative and coordinated process that assures timely, cost effective, and environmentally sound transportation planning and project development based on concurrent, multi-agency review.*



## Historical Overview of Integrated NEPA/404 Process

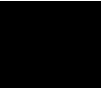
The Integrated National Environmental Policy Act/404 Process for transportation projects was developed in 1992 as a cooperative process that merged elements of both the NEPA and the Section 404 processes to form a more efficient and timely decision on preferred alternatives for transportation projects. This integrated process is a series of 13 steps developed to act as a framework, to be adapted by individual States, to improve coordination of Clean Water Act Section 404 permitting issues for transportation projects. Previously, the NEPA process was completed and a decision on a project alternative was made prior to the completion of other environmental regulatory processes, such as the Clean Water Act, Section 404 permit, and Section 106 of the National Historic Preservation Act.

The NEPA/404 process was formed through the efforts of an interagency group comprised of representatives from Environmental Protection Agency Region III, Federal Highway Administration Region 3, U.S. Army Corps of Engineer Districts, U.S. Fish and Wildlife Service Region 5, National Marine Fisheries Service Northeast Region, and the Mid-Atlantic State transportation and environmental agencies. The NEPA/404 process allows transportation agencies to build consensus for alternatives by incorporating formal concurrence points into the decision process. The NEPA/404 Process Flow Chart resulted from the collaborative efforts of the committee and is the basis for the MATE Task Force streamlining process.

## Formation of the MATE Task Force

The Environmental Protection Agency co-hosted an Executive Summit on January 27, 1999, with Federal Highway Administration, Pennsylvania Department of Transportation, and Pennsylvania Department of Environmental Protection, to discuss the opportunities available to streamline the environmental review process for transportation projects, and to investigate new tools and partnerships for developing better land use, transportation, and environmental planning. The summit participants recognized the MATE Task Force, and produced the Cooperative Agreement on Environmental Streamlining and Interagency Cooperation on Environmental and Transportation Issues (Appendix C). This Cooperative Agreement set forth goals for coordinating the transportation planning and project development processes in accordance with TEA-21, the National Environmental Policy Act, and other relevant statutes and initiatives.

Signatories to the Cooperative Agreement include representatives from various divisions of FHWA, EPA, USACE, Federal Transit Administration, Advisory Council on Historic Preservation, U.S. Fish and Wildlife Service, National Marine Fisheries Service, as well as representatives from the Mid Atlantic state highway and environmental agencies. As the process progresses and improves, the Task Force will consult with additional partners that share common interests in the planning and project development processes. New partners who recently joined the efforts of the Task Force were representatives of ACHP and various MPOs.



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## **Purpose of the MATE Task Force and Need for Environmental Streamlining**

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The MATE Task Force was formed in order to cooperatively set goals and develop a systematic approach to address the streamlining provisions set forth in TEA-21, as well as to improve communication and cooperation between the transportation and environmental agencies. The goals that the Task Force set out to address, as defined in the Cooperative Agreement, include:

- Develop a process that assures timely, cost-effective development of environmentally sound transportation plans and projects. Emphasize the use of concurrent rather than sequential development and review of plans and projects.
- Work towards removing the constraints on agency manpower and budget which affect the success of the streamlined process.
- Recognize the effective and successful coordination processes and use them as a basis for improving coordination and cooperation among stakeholders.
- Develop state specific interagency agreements and mutually agreed upon standard operating procedures. Particular attention will be given to identifying state priorities, and establishing review time frames.
- Identify and share information on transportation and environmental priorities.
- Encourage the participation of all stakeholders, including the Metropolitan Planning Organizations and the public, throughout the transportation planning and project development processes.
- Continue interagency dialogue on land use, growth, and transportation relationships to identify opportunities for environmental protection and community enhancement offered by TEA-21 and other initiatives.
- Establish a mutually acceptable conflict resolution process that considers the use of Alternative Dispute Resolution techniques.

These goals have been considered in the improved, streamlined process the Task Force established. In addition, since the resultant process is meant to be dynamic in nature, the Task Force will periodically revisit these goals to ensure the effectiveness of the newly developed process and to address the broader environmental and community goals outlined in the cooperative agreement.





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## Guiding Principles

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The Guiding Principles are intended to emphasize the interactive nature of the streamlining process.

- Each agency has a seat at the table, and its role and responsibility must be respected.
- Each agency should come to the table with an open mind, prepared to work to find an acceptable transportation solution that is compatible with its mission.
- Agencies will strive to provide sufficient staffing to allow full participation in the process.
- Agencies will define their roles during the initial Scoping stage.
- Scoping is ongoing and continuous throughout the process.
- This process is more effective for priority projects.
- Agencies will coordinate to balance impacts to all resources throughout the process.
- At major process milestones, agencies will participate in a formal concurrence process.
- After a formal concurrence, agencies will not revisit a milestone unless there is substantive new information that warrants reconsideration.
- Issues should be addressed as soon as possible and at the lowest level possible.
- Conflict resolution can be initiated by any agency at any stage in the process to resolve any concerns.



## PROCESS STEPS



## Process Steps\*

The development of the revised integrated environmental review process gave the MATE Task Force participants an opportunity to share past experiences and to strengthen the interagency relationships that were established during the development of the Integrated NEPA/404 process. These stronger interagency relationships will help to improve understanding and ultimately reduce project delays in the future. Trusting relationships, coupled with the changes noted below, are the keys to fulfilling the goals of the Cooperative Agreement.

### **Significant Changes from the Integrated NEPA/404 Process:**

- Linkage between transportation planning process and the project development process through improved coordination between the Metropolitan Planning Organizations and the resource and regulatory agencies in Step 1, Transportation Planning.
- Concurrent coordination of Section 106, Endangered Species Act, Clean Air Act, Magnuson-Stevens Fishery Conservation and Management Act, and Clean Water Act Section 404, during the NEPA process. Early and concurrent involvement of all agencies in the NEPA decision-making process.
- USACE concurrence on the preferred alternative and opportunity to obtain a USACE permit decision at the ROD.
- The information necessary for a Department of the Army permit decision at the time of the Record of Decision is currently being determined. Guidance will be appended to this guidebook.

The MATE Task Force recommends this process as beneficial and applicable to transportation development projects, regardless of the source of funding.

The steps of the new process are described in the following pages. Additional details to aid in streamlining the transportation project development are provided in the Tools and Guiding Principles sections of the Appendices. The Tools and Guiding Principles should be applied to the process steps to further enhance the streamlining effort.

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\* MPO is a general term used in this guidebook to include all planning agencies.

This guidebook was written assuming that an EIS was prepared. If a document other than an EIS was prepared, adjustments may be necessary.

Agency	STEP 1: Transportation Planning Process
State DOTs FHWA	Oversight of CLRP/STIP process, including provisions for public involvement, consideration of community and environmental resources, and awareness of Federal, State, and local requirements, goals, and objectives (such as NEPA, Section 106, Section 404, Section 4(f), land use policies, livable communities, etc). FHWA Conformity Determination in cooperation with EPA and FTA, as appropriate. Circulate final planning level Purpose & Need statement Request concurrence from agencies, if applicable.
MPO	Prepare LRP conformity analysis & meet with EPA & State air quality agencies to discuss conformity concerns, as appropriate. Identify key priority projects in LRP, CMS (where applicable), and DOT/State agency programs. Coordinate LRP through meeting with agencies to discuss priorities, information needs, and data available. Develop planning level Purpose & Need statements for priority projects with DOT. Complete LRP conformity determination.
All State & Federal Resource and Regulatory Agencies	Promote coordination of transportation & land use planning. Identify information needed to expedite reviews at project stage. Provide existing environmental data to MPOs when available. Meet with MPO & DOT to discuss priority projects and environmental concerns with LRP/TIP. Review & comment on planning level Purpose & Need statement. Meeting with DOT to discuss comments on planning level Purpose & Need statement. Concurrence or non-concurrence, if applicable. Initiate or participate in conflict resolution.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	See All Agency Block
USACE	Participate in the Transportation Planning Process, as staffing resources become available.
EPA	Meet with MPO & State air quality agencies to discuss conformity & resource impacts of LRP, as appropriate.
USFWS	Participate in the Transportation Planning Process, as staffing resources become available.
NMFS	NMFS will not likely participate at this early planning stage due to staff and budget constraints .



## STEP 1:

### Transportation Planning Process

#### Purpose:

The purpose of this step is to enhance project planning through better communication and coordination among resource and regulatory agencies and MPOs. Early coordination and information sharing between the agencies and the MPOs should provide opportunities to develop better projects, while addressing environmental and community concerns, and reducing project delays. The Transportation Planning step provides the opportunity to balance the Purpose and Need for transportation improvements with the potential impacts to the community and the environment early in the decision-making process, and allows for consistency between transportation and land use policies.

#### Improvements:

**Due to the fact that Long Range Transportation Planning is the cornerstone of developing a fiscally constrained, efficient, and integrated transportation system, the linkage of transportation planning and project development which occurs in Step 1, Transportation Planning Process, has the potential to be one of the most influential steps in the new streamlined process.** The addition of the transportation planning process step is expected to reduce delays by allowing MPOs, DOTs, and natural resource and regulatory agencies the ability to make informed decisions earlier in the project development process. The MATE Task Force incorporated this process step due to the emphasis TEA-21 places on the planning aspect of project development. TEA-21 calls for better and earlier coordination among agencies involved in the decision-making process in order to reduce conflicts and associated costs and delays. This step allows NEPA to be more effective as a planning tool, and it promotes avoidance of impacts, which improves the quality of project decisions. Agencies will share existing information with the MPOs and promote awareness of Federal, State, and local requirements, goals, and objectives. Communication of Federal, State and local issues will occur earlier in the new process than in the previous integrated process, which may eliminate some delays in later steps.

The level of environmental agency involvement in the development of the State's Long Range Transportation Plan will be a product of the amount of coordination between the State DOT, the MPO, and the environmental agencies, as well as staff time the agency can devote to the review of planning options and proposals. Provided that maximum coordination and involvement occur, it may be possible to reach agreement on the planning level Purpose and Need, the range of modal alternatives, and the identification of potential secondary and cumulative impacts. With general agreement on these items, the Project Development Process for each of the agreed upon projects will be greatly streamlined.

At the conclusion of the Transportation Planning Process step, the DOT should request concurrence from the agencies on the planning level Purpose and Need for the transportation project.

Agency	STEP 2: Scoping
State DOTs FHWA	<p>Introduce project at interagency review meeting, scoping meeting, or field meeting of project area to understand the general transportation, environmental resource, &amp; community issues.</p> <p>Identify preliminary study area with agencies and begin environmental inventory.</p> <p>Determine appropriate participation of local officials, public, interested parties (Section 106), and other stakeholders.</p> <p>Coordinate assessment methodologies, level of detail, project timeline, and resource needs, and identify applicable Federal, State, and local requirements, goals, and objectives (such as NEPA, Section 106, Section 404, Section 4(f), land use policies, livable communities, etc.).</p> <p>Prepare Notice of Intent.</p> <p>Send invitation to cooperating agencies.</p> <p>Formal notification of Section 106 project initiation.</p> <p>Initiate informal Section 7 consultation, if necessary.</p>
MPO	<p>Review project scope for consistency with planning level Purpose &amp; Need Statement.</p> <p>Presentation with DOT on LRP to all stakeholders.</p> <p>Explain rationale for mode selection in LRP.</p> <p>Explain rationale for elimination of alternatives or options in LRP/CMS.</p> <p><b>At some point in process between LRP and prior to ROD, A TIP Conformity Determination must be completed if applicable.</b></p>
All State & Federal Resource and Regulatory Agencies	<p>Participate in interagency review meeting or field meeting of project area to understand the general transportation &amp; environmental resource issues.</p> <p>Identify &amp; discuss critical issues &amp; concerns with project based on presentation of LRP.</p> <p>Define agency roles, potential permit needs, and corresponding jurisdictional authority.</p> <p>Provide existing resource identification, where available.</p> <p>Identify public involvement process.</p> <p>Review &amp; comment on assessment methodologies.</p> <p>Confirm cooperating agency status.</p>
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	Coordinate with FHWA to identify consulting parties.
USACE	Coordinate joint public involvement process.
EPA	Provide information on wetland advanced identifications completed in study area and other concerns such as environmental justice, secondary & cumulative effects, forest fragmentation, water supply, & sole source aquifers.
USFWS	<p>Provide information on existing T&amp;E species in study area.</p> <p>Provide guidance on habitat evaluation methodologies.</p> <p>If no effect, Section 7 consultation completed; otherwise, continue informal Section 7 consultation.</p>
NMFS	Provide information and identify concerns relative to Essential Fish Habitat, Threatened and Endangered Species, anadromous fish, important aquatic habitats not included in EFH, within NMFS purview.

## STEP 2:

### Scoping

**Purpose:**

Scoping is the process of identifying the range and complexity of issues to be addressed in the project. The scoping process is accomplished through interagency meetings and field views. During scoping, partners define agency roles, identify public involvement processes/opportunities, review assessment methodologies, identify stakeholders, and review the range of alternatives identified in the transportation planning process. If agency involvement was not included in the planning step, scoping is a tool to be used to bridge the gap between transportation planning and project development. The informal Section 7 process begins (to identify potential impacts to threatened and endangered species).

**Improvements:**

The most significant changes in the scoping step are the addition of MPO involvement and continued environmental agency involvement. Under the previous "Integrated NEPA/404 process," environmental agency involvement began in the scoping stage, whereas this refined process encourages environmental agency involvement to begin in the transportation planning stage. Thus, all agencies are informed about the project and will be prepared to give more comprehensive input during the scoping stage. The Scoping Step should be used to coordinate the activities and the decisions (and the rationale or data to support those decisions) that occurred during the Long Range Planning Process. The result will be better quality decisions to avoid or minimize impacts to the fullest extent possible, and minimization of agency conflicts.

Agency	STEP 3: Purpose & Need
State DOTs FHWA	Refine planning level Purpose & Need Statement from Transportation Planning Process. If Purpose & Need Statement was not completed in planning, then develop project level Purpose & Need Statement. Refine Study Area with agencies and continue environmental inventory. Provide draft project level Purpose & Need Statement for review & comment. Circulate final project level Purpose & Need Statement. Request concurrence from agencies. Initiate or participate in conflict resolution process, as appropriate.
MPO	Provide technical data to DOT to assist in the refinement of the planning level Purpose & Need Statement from Transportation Planning Process or to develop project level Purpose & Need Statement.
All State & Federal Resource and Regulatory Agencies	Review & comment on project level Purpose & Need Statement. Meeting with DOT to discuss comments on project level Purpose & Need Statement. Concurrence or non-concurrence Initiate or participate in conflict resolution, as appropriate.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	Coordinate with FHWA to assess information needs. Review known resources in study area for concurrence with eligibility.
USACE	Review and concur on 404 Project Purpose.
EPA	Define 404 Project Purpose in conjunction with applicant.
USFWS	See All Agency Block
NMFS	See All Agency Block





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## STEP 3:

### Purpose and Need

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**Purpose:** The purpose of this step is to achieve consensus among the participating agencies on the overall project purpose and specific transportation issues that must be addressed. The Purpose and Need Statement will be used to develop the criteria for a full range of reasonable alternatives. During the Purpose and Need step, the planning level Purpose and Need Statement is refined with input from agencies and the public, or developed if not previously prepared. Agencies continue to provide available information related to the study area. The State DOT requests agency concurrence on the project Purpose and Need.

**Improvements:** By ensuring agreement on Purpose and Need early in the planning or the project development process, redundant analysis and delays will be eliminated later in the process. Since the range of alternatives is determined by the Purpose and Need, a clear understanding and agreement of the issues will ensure that these issues will not resurface at a later step in the process. This step should reduce the likelihood of future conflicts and increase support from the agencies on the project Purpose and Need.

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At the conclusion of the Purpose and Need step, the DOT should request concurrence from the agencies on the Purpose and Need Statement.

Agency	STEP 4: Alternatives Development
State DOTs FHWA	Develop Measures of Effectiveness/Criteria for Identification of Alternatives. Refine and coordinate level of detail & assessment methodologies. Identify & map environmental & community resources and potential compensatory mitigation opportunities, including sites. Conduct and document stakeholder (State & Federal resource & regulatory agencies, local governments, community groups, etc.) sessions to develop a full range of alternatives, including consideration of avoidance, minimization, and compensation. Distribute alternative analysis documentation. Request concurrence on alternatives carried forward.
MPO	Participate in development of Measures of Effectiveness/Criteria for Identification of Alternatives. Ensure that range of alternatives are compatible with LRP/CMS. Explain rationale for mode selection in LRP. Explain rationale for elimination of alternatives in LRP/CMS. Evaluate alternatives carried forward for consistency with local land use plans & test for conformity, if appropriate.
All State & Federal Resource and Regulatory Agencies	Participate in development of Measures of Effectiveness/Criteria for Selection from Purpose & Need. Identify required level of detail for conceptual, preliminary and detailed alternatives analysis. Participate in development of a full range of alternatives at interagency meeting(s). Investigate mitigation opportunities. Participate in the development of general mitigation plan and goals. Provide concurrence, non-concurrence, or comments. Participate in a meeting to resolve issues or concerns.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	Consult with FHWA/DOT to refine Area of Potential Effect. Consider public input. Refine proposals for reconnaissance surveys and predictive models. Preliminary Assessment of Effects.
USACE	Review & comment on adequacy of aquatic resource mapping and functional assessments. Identify when jurisdictional determination will occur in process. Ensure avoidance & minimization measures for aquatic resources incorporated into all alternatives, including early identification of compensatory mitigation sites.
EPA	EPA begins Clean Water Act Section 404(b)(1) review.
USFWS	Participate in informal Section 7 consultation, as necessary.
NMFS	Provide informal Endangered Species Act and Essential Fish Habitat consultation.

## STEP 4:

### Alternatives Development

**Purpose:**

The Alternatives Development Step is the interactive development of a full range of reasonable alternatives, to address the Purpose and Need statement while considering impacts to land use, socio-economic, cultural, and natural resources. The purpose of this process step is to identify all reasonable alternatives, and to develop consensus among the stakeholders. While alternatives are being developed, avoidance and minimization measures and compensatory mitigation of resource impacts are identified. The range of alternatives is continuously narrowed based upon overall project goals and balancing of impacts. The alternatives carried forward for detailed analysis are those which best meet the mutually agreed upon screening criteria and measures of effectiveness. In addition, potential mitigation opportunities for the project are identified along with mitigation requirements.

**Improvements:**

MPO involvement in this step will help the DOTs and the agencies incorporate community interests and detailed information regarding the project area in alternatives development. Another change that improves coordination of the Section 106 process is the early identification of the Area of Potential Effect on historic resources. This concurrent development and review of alternatives by all regulatory and resource agencies provides a balance of resource impacts and avoids favoring one resource over another. By eliminating alternatives with significant environmental impacts and those alternatives that do not address the transportation goals and problems outlined in the Purpose and Need statement, NEPA compliance can be more efficiently accomplished.

At the conclusion of the Alternatives Development step, the DOT should request concurrence from the agencies on alternatives carried forward.

Agency	STEP 5: Detailed Alternatives Analysis & Draft NEPA Document
State DOTs FHWA	Collect additional field level environmental resource & community data. Conduct detailed technical analysis and refine engineering of alternatives. Write Biological Assessment & report results in Draft NEPA document. Circulate pre-Draft NEPA document to cooperating agencies and others, if requested. Resolve concerns to the fullest extent possible prior to issuing Draft NEPA document. FHWA approves Draft NEPA document, circulates to agencies, advertises Notice of Availability and Joint Public Notice. Public Hearing (if necessary) to fulfill NEPA & Department of Army permit. Submit Department of Army permit application.
MPO	Review pre-Draft NEPA document for consistency with LRP/TIP. If project is not in the TIP, then MPO should add it to the TIP. TIP conformity determination, if necessary.
All State & Federal Resource and Regulatory Agencies	Participate in the development of technical information and conclusions on impacts to resources. Review and comment on pre-Draft NEPA document. Participate in meeting to discuss comments on pre-Draft NEPA document Review and comment on revised pre-Draft NEPA document. Review & provide written comments on Draft NEPA document.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	Review detailed studies of identification & evaluation of historic resources for concurrence. Direct FHWA to seek formal Determination of Eligibility, if necessary. Review, comment, and provide concurrence on Determination of Effects. Include Determination of Effects in Draft NEPA document. Suggest additional avoidance, minimization, & compensatory mitigation measures for historic resources.
USACE	Review and determine adequacy of wetland and other aquatic resource mapping. If a preferred alternative is recommended by the transportation agency in the pre-Draft NEPA document, then review and comment on preliminary 404(b)(1) analysis. Review permit application for completeness. Issue Joint Public Notice advertising availability of Draft NEPA document, receipt of Department of the Army permit application, and Joint Public Hearing as appropriate. Participate in Joint Public Hearing, as appropriate.
EPA	Review and rate Draft NEPA document. Arrange meeting to discuss critical issues.  Conduct conformity review if project is in TIP.
USFWS	Continue informal Section 7 consultation – avoid & minimize impacts to T&E species.
NMFS	Continue informal consultation on ESA, EFH, and other resources of concern.



## STEP 5:

### Detailed Alternatives Analysis & Draft NEPA Document

#### **Purpose:**

The purpose of this step is to fully evaluate the impact of the alternatives carried forward from the previous step. The public is provided with the opportunity to compare the alternatives for their ability to address the project Purpose and Need, as well as the potential impacts to the environmental, economic, and community resources. Early and active agency involvement in the evaluation of alternatives and identification of major issues and concerns are encouraged in this process step. The lead agency will circulate the pre-Draft NEPA document to the cooperating agencies. After resolving stakeholder concerns to the fullest extent possible, the Draft NEPA document will be developed and circulated. The agencies will review the document and provide the DOT and FHWA with written comments.

#### **Improvements:**

In the newly developed process, Step 5 combines the activities of analyzing alternatives through detailed studies, and preparing, circulating, and commenting on the Draft NEPA document. Active agency involvement in the evaluation of detailed alternatives allows for identification and resolution of significant environmental concerns prior to the circulation of the Draft NEPA document.

Agency	STEP 6: Identification of Preferred Alternative & Conceptual Mitigation Plan
State DOTs FHWA	<p>Review public and agency comments/concerns and coordinate with Cooperating Agencies.</p> <p>Refine alternative(s) and overall technical analysis, as needed.</p> <p>DOT identifies preferred alternative and conceptual mitigation plan with stakeholder involvement.</p> <p>Coordinate meeting to refine mitigation plans.</p> <p>Initiate formal Section 7 consultation, if appropriate.</p> <p>Prepare preliminary Section 404(b)(1) analysis for preferred alternative.</p> <p>Distribute preferred alternative and mitigation plan documentation.</p> <p>Make presentation to MPO on preferred alternative.</p> <p>Request concurrence on preferred alternative and conceptual mitigation plan.</p> <p>Develop MOA for Section 106 impacts.</p>
MPO	See All Agency Block
All State & Federal Resource and Regulatory Agencies	<p>Review DOT's preferred alternative and proposed mitigation recommendation.</p> <p>Meet to discuss DOT's preferred alternative, resolve outstanding issues, additional information requirements and conduct field views, if necessary.</p> <p>Provide comments on mitigation goals and strategies and meet to develop overall plan.</p> <p>Participate in field meeting to refine mitigation plan &amp; select mitigation sites.</p> <p>Develop checklist of minimization/mitigation measures to be incorporated into project design.</p> <p>Concurrence, non-concurrence, or comment on preferred alternative and conceptual mitigation plan.</p>
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	<p>Coordinate with FHWA/DOT to refine Area of Potential Effect &amp; Determination of Effects for preferred alternative.</p> <p>Consult to resolve adverse effects.</p> <p>Develop Memorandum of Agreement.</p> <p>Consider public input on recommended mitigation.</p> <p>Review MOA for adequacy of mitigation and consistency with the preferred alternative.</p> <p>Execute MOA.</p>
USACE	<p>Coordinate and review comments received on a Public Notice/NEPA document.</p> <p>Review and determine adequacy of wetland and other aquatic resource mapping.</p> <p>Review DOT's response to comments.</p> <p>Refine goals and concepts for aquatic resource compensation plans.</p> <p>Review and comment on preliminary Section 404(b)(1) analysis for preferred alternative.</p> <p>Identify Least Environmentally Damaging Practicable Alternative (LEDPA).</p> <p>Develop checklist of minimization measures for aquatic resources to be incorporated into project design.</p>
EPA	See All Agency Block
USFWS	<p>Conclude informal Section 7 consultation.</p> <p>Review biological assessment.</p> <p>Biological opinion written, if applicable, effects determination, &amp; development of measures to minimize harm on T&amp;E species.</p> <p>Complete formal Section 7 consultation within 135 days, if initiated.</p> <p>Comment on avoidance &amp; minimization for wetlands and T&amp;E impacts (incidental takes statement).</p> <p>If jeopardy opinion, develop alternatives to proposed action.</p>
NMFS	<p>Complete informal ESA consultation, or initiate preparation of a biological opinion (135 days to complete) for formal consultation; submit conservation recommendations within 30 days of receipt of final EFH assessment. (NOTE: Federal action agency has 30 days to respond to NMFS conservation recommendations before EFH consultation is completed).</p>

## STEP 6:

### Identification of Preferred Alternative & Conceptual Mitigation Plan

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**Purpose:**

The identification of the preferred alternative and the refinement of a conceptual mitigation plan were included as a specific step to ensure that consensus is achieved among all agencies prior to the circulation of the Final NEPA document. Interaction among DOT, regulatory and resource agencies, as well as the public is key to achieving consensus throughout the process. Joint development of the mitigation plans assures that all impacts of the preferred alternative are adequately addressed.

**Improvements:**

Additional comments and coordination between the agencies and the DOTs allow better opportunities for information sharing and resolving concerns prior to the preparation of the Final NEPA document. Thus, it is more likely that the concerns of the agencies are appropriately addressed, and concurrence will be more readily achieved with the agencies. The USACE has determined that they will participate in the concurrence process for the preferred alternative. If the USACE determines that the preferred alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA), they will concur.

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At the conclusion of the Identification of Preferred Alternative & Conceptual Mitigation Plan step, the DOT should request concurrence from the agencies on the preferred alternative and the conceptual mitigation plan.

Agency	STEP 7: Final NEPA Document
State DOTs FHWA	Circulate pre-Final NEPA document to Cooperating Agencies. Resolve concerns to the fullest extent possible prior to issuing Final NEPA document. FHWA approves Final NEPA document, circulates to agencies, and advertises Notice of Availability.
MPO	See All Agency Block
All State & Federal Resource and Regulatory Agencies	Review and comment on pre-final NEPA document. Participate in a meeting to discuss & resolve comments. Review revised pre-Final NEPA document. Review and comment on Final NEPA document. Initiate CEQ referral, if appropriate. Provide comments on issues to be considered in Record of Decision. Submit final comments on Department of Army permit application.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	Ensure executed MOA is included in Final NEPA document.
USACE	Issue (Joint) Public Notice advertising availability of Final NEPA document & processing of Department of Army permit application for the preferred alternative. Review comments on NEPA document & Public Notice.
EPA	Review & comment on Final EIS. Provide internal rating to EPA Headquarters. Initiate CEQ referral within 25 days from Notice of Availability of Final EIS.
USFWS	Ensure biological assessment & biological opinion (as appropriate) are in the Final NEPA document.
NMFS	Ensure that ESA, EFH, and other resource documentation is included in final NEPA document.



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## STEP 7:

### Final NEPA Document

#### Purpose:

During this step, the pre-Final NEPA document must be circulated by the Lead agency to the cooperating agencies for review and comment. The purpose of this action is to confirm that there are no objections to any changes to the NEPA document or to the preferred alternative that have occurred since the circulation of the draft NEPA document. The DOT and FHWA should resolve any outstanding concerns to the fullest extent possible. The Final NEPA document must address all substantive comments received on the Draft NEPA document. In addition, FHWA will advertise the Notice of Availability jointly with the USACE's Public Notice of a Department of the Army Permit, if applicable. Finally, agencies should provide comments on issues to be considered in the ROD and reinforce commitments that need to be carried through the final design of the preferred alternative.

#### Improvements:

Increased cooperation and information sharing between the agencies should improve the Final NEPA document and help the DOT to resolve concerns prior to its circulation. Additionally, FHWA and the USACE will jointly advertise the NEPA Notice of Availability and the Section 404/10 Permit Application. The agencies will work with the DOT to address issues and concerns prior to the release of the final NEPA document, rather than identifying concerns after it has been circulated.

Agency	STEP 8: Record of Decision
State DOTs FHWA	Address substantive comments received on Final NEPA document. Coordinate key issues with Cooperating Agencies. Prepare & sign ROD, identifying environmentally preferable alternative, selected alternative & mitigation commitments. Include checklist of mitigation/minimization measures to be incorporated into project design. Provide copy of ROD to Cooperating Agencies and others upon request.
MPO	<b>Before ROD is signed, the preferred alternative must be included in a conforming LRP &amp; TIP.</b>
All State & Federal Resource and Regulatory Agencies	Federal agencies participate in CEQ referral activities prior to issuance of ROD, if appropriate.
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	See All Agency Block
USACE	See All Agency Block
EPA	See All Agency Block
USFWS	Ensure necessary actions are committed to in ROD as required by Section 7 consultation and biological opinion, if necessary, including reasonable and prudent measures in the incidental takes Statement.
NMFS	Ensure recommendations made pursuant to ESA and EFH, as appropriate, are committed to in the ROD.

## STEP 8:

### Record of Decision\*

**Purpose:**

The Record of Decision (ROD) is FHWA's formal decision on the selected alternative. Prior to the signing of the ROD, the preferred alternative must be included in a conforming long range plan and a TIP. The ROD addresses substantive comments received on the Final NEPA document, and explains the mitigation commitments for the project. A link between NEPA project development and final design activities is provided through the coordination of the commitments contained in the ROD. This continuity builds trust among the transportation, resource and regulatory agencies, as well as the public by ensuring that all commitments included in the ROD are pursued. Should another alternative be selected after the ROD is signed, then additional coordination will be initiated.

**Improvements:** The USACE can make a permit decision at this step, depending on the project and level of design available. When the State DOT provides the information necessary for the USACE to make a permit decision at this step, substantial streamlining of the process has been accomplished.

\* OR Finding of No Significant Impact if EA is prepared.

Agency	STEP 9: Project Design & Final Minimization & Mitigation Coordination
State DOTs FHWA	DOT coordinates development of final design plans, continuing to minimize impacts, where possible, in cooperation with appropriate stakeholders. Submit final plans to appropriate agencies. Incorporate mitigation commitments into final plans. Carry out terms of MOA & other mitigation commitments.
MPO	See All Agency Block
All State & Federal Resource and Regulatory Agencies	Review project plans to verify previously agreed upon mitigation & minimization measures have been incorporated into design, including final mitigation plans. Consult on changes to project & comment on further opportunities to minimize impacts to resources. Participate in field views, if necessary. Review & comment on issues related to final design details, such as stormwater management plans. Review and comment on monitoring plans.
	Specific Regulatory Agency Actions
ACHP/SHPO/ THPO	Monitor implementation of the terms of the MOA.
USACE	Comment on opportunities to minimize harm to aquatic resources.
EPA	See All Agency Block
USFWS	Approve design of measures to minimize harm to T&E species, as specified by the biological opinion.
NMFS	Review plans to ensure measures are included to protect ESA and EFH resources, as appropriate.





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## STEP 9:

### Project Design & Final Minimization and Mitigation Coordination

#### Purpose:

This step represents the ongoing coordination between the DOT and the regulatory and resource agencies after the issuance of the ROD and during the final design of the project. The overall purpose of this step is to ensure that any necessary changes to the project impacts are coordinated with the appropriate agencies as soon as they become apparent. This coordination is necessary regardless of whether a USACE permit was issued at the time of the ROD. This provides an opportunity to develop mutually acceptable solutions at the earliest possible time. It is especially important to maintain consistency and continuity between NEPA avoidance, minimization, and mitigation commitments and the final design of the selected alternative.

#### Improvements:

The revised environmental review process builds on the Final Permit Review step of the integrated NEPA/404 process, to allow the agencies a chance to review the final commitments for accuracy.

Agency	<b>STEP 10: Final Permit Decision</b> <b>NOTE: This action may occur at the time of the Record of Decision, depending on the project and the level of design available.</b>
State DOTs FHWA	DOT prepares and submits final permits(s) details.
MPO	See All Agency Block
All State & Federal Resource and Regulatory Agencies	State 401/404 agencies complete review of Department of Army Section 404 permit. Ensure Federal and State agency consistency. Review & comment on issues related to final design details, such as stormwater management plans. Review & comment on monitoring plans. EPA/FWS/NMFS/USACE complete 404(q) process, if applicable
	<b>Specific Regulatory Agency Actions</b>
ACHP/SHPO/ THPO	See All Agency Block
USACE	Complete review of project plans, compensatory mitigation plans and public comments received to date. Determine whether project complies with 404(b)(1) guidelines. Prepare decision-making documents (NEPA document & ROD). Review FHWA NEPA re-evaluation, if applicable, and determine adequacy for COE's NEPA requirements. Issue or deny permit. Continue evaluation process, if necessary. <b>NOTE: This step may occur at the time of the Record of Decision, depending on the project and the level of design</b>
EPA	Initiate 404 (c) veto, if applicable.
USFWS	See ALL Agency Block
NMFS	Notify the USACE and FHWA of any changes in information on or status of T&E species



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## STEP 10:

### Final Permit Decision

**Purpose:** After reviewing all project plans, compensatory mitigation plans and public/agency comments, the USACE must prepare the agency's decision-making documents, and either issue or deny a Department of the Army permit for the project. If there has been a long period between the issuance of the ROD and the Final Permit Decision, the USACE and FHWA will review the information contained in the NEPA document to ensure viability.

**Improvements:** This step has changed from the integrated NEPA/404 process, because the USACE may make a permit decision at the ROD, depending on the project and the level of design detail available at the ROD. If the permit is issued at the ROD, many duties included in this step will be completed during Step 8.

Agency	STEP 11: Project Implementation & Monitoring
State DOTs FHWA	Provide agencies with project schedule and updates, as appropriate. Ensure all permit and mitigation commitments, including monitoring & enforcement programs, are implemented.
MPO	See All Agency Block
All State & Federal Resource and Regulatory Agencies	Review & comment on issues related to final design details, such as stormwater management plans. Review & comment on monitoring plans. Work with DOT to develop plan for monitoring of construction activities & mitigation efforts. Ensure implementation of permit conditions through field inspection. Review monitoring reports.
	Specific Regulatory Agency Actions
ACHP/SHPO/ THPO	Monitor compliance with terms of MOA & mitigation of Section 106 resources through field inspection.
USACE	Ensure compliance with Department of Army permit conditions, including compensatory mitigation requirements. Respond to requests for permit modifications.
EPA	See All Agency Block
USFWS	See All Agency Block
NMFS	See All Agency Block



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## STEP 11:

### Project Implementation & Monitoring

#### **Purpose:**

The purpose of Step 11 is to ensure that all project construction and mitigation activities are consistent with the decisions and commitments that were cooperatively made during project development. During the final stages of the project, all State and Federal agencies work with the DOT to monitor construction activities and mitigation efforts. For example, the USACE ensures compliance with Department of the Army permit conditions, and SHPO or ACHP, if involved as a consulting party, ensures compliance with the terms of the MOA and mitigation of Section 106 resources.

#### **Improvements:**

The purpose of Step 11 is to provide a linkage between the commitments made during the NEPA process and in the ROD with final design and project construction commitments. This step provides an opportunity for transportation, resource, and regulatory agencies, as well as the construction engineers to ensure compliance with permit conditions and environmental regulations.



## TOOL CATALOG



## Tool Catalog

The MATE process itself is a tool that can be used to streamline transportation project development. The following are tools to supplement the streamlined process, or methods to be used as Best Management Practices.

### GENERAL TOOLS TO BE APPLIED THROUGHOUT THE PROCESS

#### **Communication & Coordination**

*Use common language and avoid jargon in interagency documents*

- Use regulations to clarify language

*Use email to communicate more efficiently*

- List Servers
- Designate a contact person to develop a catalog of important email addresses (regional email lists)
- Network with MPOs, resource and regulatory agencies
- Develop common mailbox/host server for participants in important projects

*Create a project meeting webpage for easy reference of important items*

*Keep agencies informed about projects, even when they are not actively involved in a particular project*

- Burden sharing
- Summary information
- Project updates at interagency meetings
- Newsletters

#### **Peer Reviews**

- Benchmarks
- Build trusting relationships between cooperating agencies
- Lessons learned
- Coordinate meetings with agency counterparts in other regions
- National Association of Public Administration Reviews
- Project Monitors (to ensure that agencies are following the process the way it was intended to progress)

#### **Alternative Dispute Resolution Techniques**

- Attend conflict resolution/public involvement training courses

## Tool Catalog (Cont'd)

- Ensure that agreement is achieved, or utilize conflict resolution/alternative dispute resolution techniques.
- Conflict resolution is not a threat.
- Coordination should focus on understanding each participant's interest, and achieving agreement or concurrence.

### *Resource Sheds*

- Development of historical and archaeological contexts to evaluate the need for surveys and determine significance

### *Inter/Intra Agency*

- Programmatic Agreements
- Burden Sharing
- Agency Partnering
- Workgroups
  - Regular Meetings
  - Special Project Meetings
- Provide/attend interagency training, when necessary
  - Field Views
    - Set standards for increased productivity of inter agency field meetings in the Purpose & Need Stage
  - Public Involvement throughout the entire process

### *Mitigation Banking*

## **Administrative Tools**

### *Contracting*

- Open-end management and specialty contracts
- Two stage contracts – use same consultant throughout project
- Pre-certification process for contractors
- Mechanism to identify firms that perform well
- Training for consultants
- Business process review by agencies



## Tool Catalog (Cont'd)

### **Data & Analysis Tools**

- Transportation Demand Tools
- Performance Measures
- GIS
- Transportation Statistics Information
- Census Bureau Tiger Files
- Advanced Resource Identification
- Special Area Management Plans
- Resource Sheds
- Centralized environmental resource database accessible through the internet and maintained by one agency

### **Funding Tools**

- TEA-21 Section 1309 – Environmental Streamlining provision that allows State DOTs the ability to use project funding to assist resource agencies to allow them further involvement in the transportation project development process.
- FHWA funding for State planning and research on specific technical issues
- FHWA Planning funds for MPO projects related to transportation planning activities

### **Reference tools**

#### *Guide Books/Manuals*

- FHWA Environmental Guidebook
- MATE Streamlining Process White Paper
- State Guidebooks
- Integrated NEPA/404 Guidebook

#### *Internet Sites*

- FHWA Environmental Streamlining - [www.fhwa.dot.gov/environment/strmlng.htm](http://www.fhwa.dot.gov/environment/strmlng.htm)

#### *MATE Website to promote streamlined process*

- Agency Websites
- Interactive CD-ROM for MATE process

## Tool Catalog (Cont'd)

### Resource Tools

- GIS
- Certified Local Government Planners
- Resource Sheds such as, Pennsylvania Heritage Corridors, Delaware Inland Bays, Chesapeake Bay, etc.

### SUGGESTIONS FOR PROCESS STEPS

#### Step One

- Coordination of all general modal and alignment concepts with agencies and public to refine the planning level Purpose and Need Statement.
- Resource agencies should share information with local governments, i.e. SAMPS.
- List State/regional priority projects.
- Stakeholder development of vision, goals and objectives, including environmental component, land use, secondary and cumulative effects, etc.
- Develop a list of stakeholders that is representative of all interests.
- Hold a project introduction meeting to determine participation.
- Develop level of detail/methodologies for resources.
- Invite MPOs to project introduction meeting to discuss Long Range Plan.
- MPOs and agencies should coordinate Long Range Plan with other components of the system.
- Provide Purpose and Need summaries to agencies at the project planning stage to build consensus.
- 12-Year Program presentations for projects on STIP at agency coordination meetings on at least an annual basis.
- Community Visioning at the planning stage.
- Assign lead districts to projects that fall in more than one jurisdiction.
- Resource agencies should share information with local agencies, such as Special Area Management Plans.

#### Step Two

- Interagency field review of study area and traffic issues, land use, and environmental issues.
- Develop roles and responsibilities of agencies in project.
- Advanced Resource Identification to include basic information early in the project development process.
- Independent utility/logical termini assessment.
- Remote sensing, aerial photography, visualization, video, photolog documentation.

## Tool Catalog (Cont'd)

- Internal scoping within each agency to bring more information to the DOT.
- Ensure consistency with other agencies, particularly regarding modal consistency and compatibility, and land use consistency and compatibility.
- DOT should coordinate projects and ensure consistency and compatibility.
- Schedule project meetings in the beginning of the process to raise agency awareness of important dates; develop a comprehensive project timeline for key project meetings and obtain agreement from the agencies on that timeline.
- Schedule special project meetings for important projects.
- Save dates each month for potential field views.

### Step Three

- Include goals and objectives in project level Purpose and Need Statement.
- Project level Purpose and Need Statement should be objective and focused on problems.
- Develop a one to two page summary of Purpose and Need information with supporting data as appendices.
- DOT should coordinate the overall project purpose with USACE.
- Regulatory and resource agencies should participate in the coordination of the Purpose and Need summary.
- Informal coordination of the Purpose and Need Statement prior to the official circulation.

### Step Four

- Review alternatives objectively and give them all equal consideration.
- Remember that project development is an iterative process that narrows a broad range of alternatives to a narrower range in detailed review.
- Agencies should assist the DOT in the development of alternatives, for example, agencies should preliminarily draw a line on map with resources.
- Use a concurrence form to obtain concurrence from agencies.

### Step Five

- Draft a brief summary document detailing why the alternatives carried forward are preferable to those that were eliminated and use as a framework for the EIS.
- Coordinate to determine the level of detail necessary for the environmental data and the engineering design.

## Tool Catalog (Cont'd)

- DOT and regulatory agencies develop a joint mailing list for Joint Public Notices.
- Hold a meeting to review comments on the preliminary draft EIS.

### Step Six

- Agencies assist DOT in developing a conceptual mitigation plan.
- Where appropriate, send joint responses to citizen comments.
- Use a concurrence form to obtain concurrence from agencies.
- DOT and USACE, and other agencies as appropriate, coordinate efforts to satisfy the requirements of the 404(b)(1) analysis.
- Meetings held to identify and resolve outstanding agency and public project issues.

### Step Seven

- Hold an interagency meeting to review comments on the preliminary Final NEPA document.
- Update and use the combined mailing list for Joint Public Notice.
- Hold an interagency meeting to resolve comments on Final NEPA document.

### Step Eight

- Coordinate the development of the ROD with agencies prior to issuance.

### Step Nine

- DOT develops a design schedule and shares it with the agencies.
- DOT and agencies hold partnering meetings to continue to refine minimization and mitigation efforts.

### Step Ten

- USACE coordinate the draft decision with DOT and any requesting agencies.

### Step Eleven

- Hold partnering meetings to ensure compliance.
- Environmental compliance monitor.



## APPENDICES



## Appendix A

### Acronyms

#### LIST OF ACRONYMS

<b>ACHP</b>	Advisory Council on Historic Preservation	<b>MATE</b>	Mid Atlantic Transportation and Environment Task Force
<b>APE</b>	Area of Potential Effect	<b>MIS</b>	Major Investment Study
<b>BMP</b>	Best Management Practices	<b>MOA</b>	Memorandum of Agreement
<b>CEQ</b>	Council on Environmental Quality	<b>MPO</b>	Metropolitan Planning Organization
<b>CFR</b>	Code of Federal Regulations	<b>NEPA</b>	National Environmental Policy Act
<b>CMS</b>	Congestion Management Systems	<b>NMFS</b>	National Marine Fisheries Service
<b>CWA</b>	Clean Water Act	<b>ROD</b>	Record of Decision
<b>DEIS</b>	Draft Environmental Impact Statement	<b>SAMPS</b>	Special Area Management Plan
<b>DOT</b>	Department of Transportation	<b>SHPO</b>	State Historic Preservation Officer
<b>EA</b>	Environmental Assessment	<b>STIP</b>	Statewide Transportation Improvement Program
<b>EFH</b>	Essential Fish Habitat	<b>T&amp;E SPECIES</b>	Threatened and Endangered Species Act
<b>EIS</b>	Environmental Impact Statement	<b>TEA-21</b>	Transportation Equity Act for the 21st Century
<b>ESA</b>	Endangered Species Act	<b>THPO</b>	Tribal Historic Preservation Officer
<b>FEIS</b>	Final Environmental Impact Statement	<b>TIP</b>	Transportation Improvement Program
<b>FHWA</b>	Federal Highway Administration	<b>USACE</b>	U. S. Army Corps of Engineers
<b>FONSI</b>	Finding of No Significant Impact	<b>USEPA</b>	U.S. Environmental Protection Agency
<b>FTA</b>	Federal Transit Administration	<b>USFWS</b>	United States Fish and Wildlife Service
<b>LEDPA</b>	Least Environmentally Damaging Practicable Alternative	<b>W&amp;S</b>	Wild and Scenic Rivers Act
<b>LRP</b>	Long Range Plan		

## Appendix B

### Definitions

#### **404(q) Elevation Process**

Section 404(q) of the Clean Water Act provides a process for timely process decision making and a resolution of conflicts among agencies, which begins upon issuance of the Public Notice and carries through to permit decision. The U.S. Army Corps of Engineers has entered into agreements with the Federal Regulatory and Resource Agencies that enables each agency to elevate areas of disagreement with the permit decision. (Integrated NEPA/404, 1-9)

#### **Advanced Identification**

EPA provides technical assistance to communities to help locate important wetlands and plan for their protection before development pressures become critical.

#### **Alternative**

One of a number of specific transportation improvement proposals, alignments, options, design choices, etc., in a defined study area. (Sometimes “alternate” replaces “alternative”). For a transportation project, alternatives to be studied normally include the No Action Alternative, an upgrading of the existing roadway alternative, new transportation routes and locations, transportation systems management strategies, multi-modal alternatives, if warranted, and any combinations of the above. (Integrated NEPA/404).

#### **Area of Potential Effect (APE)**

The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effect is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. With regard to the Endangered Species Act, the area of potential effect is referred to as the “action area” and includes all areas to be affected, directly or indirectly, by the Federal action (including interrelated and interdependent activities) and not merely the immediate area involved in the action.

#### **Avoidance Alternative**

Any alignment proposal that has been developed, modified, shifted or downsized specifically in order to avoid affecting one or more resources. (PennDOT Environmental Impact Statement Handbook)

## Appendix B

### Definitions (Cont'd)

#### Biological Assessment

Information prepared by, or under the direction of, a Federal agency to determine whether a proposed action involves “major construction activities.” The outcome of this biological assessment determines whether formal consultation or a conference is necessary.

#### Biological Opinion

Document which includes (1) the opinion of the Fish and Wildlife Service or the National Marine Fisheries Service as to whether or not a Service action is likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat. [50 CFR 402.02, 50 CFR 402.14 (h)]

#### Categorical Exclusion (CE)

A category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (Section 1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact Statement is required. An agency may decide in its procedures or otherwise, to prepare environmental assessments for the reasons Stated in Section 1508.9 even though it is not required to do so. Any procedures under this section shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect. (40 CFR 1508.4)

#### CEQ Referral Process

The Federal agency which has referred any matter to the Council on Environmental Quality after a determination that the matter is unsatisfactory from the standpoint of public health or welfare or environmental quality. (40 CFR 1508.24)

#### Compensatory Mitigation

Compensation for unavoidable impacts generally involving restoration, creation, enhancement, or preservation.



## Appendix B

### Definitions (Cont'd)

<b>Conceptual Alternatives</b>	Developed through applying a thorough understanding of the project's revised Purpose and Need, the State, in partnership with the Interagency Team, develops a variety of conceptual improvement alternatives that could satisfy the transportation requirements of the study area. As concepts are refined, the range of conceptual alternatives eventually will be narrowed to a more manageable scope. (Integrated NEPA/404, 2-23)
<b>Conceptual Mitigation</b>	The early, generalized identification of design, operational, or construction measures considered to minimize or avoid anticipated environmental consequences. Typically, conceptual mitigation represents ideas talked about prior to the concluding stages of an environmental study well before many of the ideas are later further worked upon, refined, or committed. (Integrated NEPA/404)
<b>Concurrence</b>	Written determination by the agency that information to date is adequate to agree that the project can be advanced to the next stage of project development. Agencies agree not to revisit the previous process steps unless conditions change. (Integrated NEPA/404 Handbook)
<b>Concurrence Points</b>	Point where a transportation agency requests formal concurrence. (Integrated NEPA/404)
<b>Conflict Resolution</b>	Process to resolve disagreements to allow the process to move forward.
<b>Constrained Long-Range Plan (CLRP)</b>	A long-term, fiscally constrained transportation plan incorporating all modal facilities for the metropolitan area. This plan identifies transportation facilities that function as an integrated regional system and require facility improvement within the planning period (at least 20 years). A metropolitan planning organization prepares and is required to update the plan every three years in a non-attainment area, and every five years in an attainment area. (Maryland State Highway Glossary)

## Appendix B

### Definitions (Cont'd)

#### **Consulting Parties - Section 106**

Certain individuals and organizations with a demonstrated interest in the undertaking may participate as consulting parties due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties. (800.2(c)(6))

#### **Cooperating Agencies**

Any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency. (40 CFR 1508.5)

#### **Coordination**

The comparison of the transportation plans, programs, and schedules of one agency with related plans, programs and schedules of other agencies or entities with legal standing, and adjustment of plans, programs and schedules to achieve general consistency. (23 CFR 450.104)

#### **Cumulative Impacts**

The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR 1508.7)

#### **Department of the Army Permit**

Under current Federal regulations, a Department of the Army permit is required for work on structures in navigable waters of the U.S. (Rivers and Harbors Act) and/or the discharge of dredged or fill material into waters of the U.S., including wetlands. (Clean Water Act)

## Appendix B

### Definitions (Cont'd)

#### **Eligibility of Resources (Section 106)**

If the lead Federal Agency Official determines any of the National Register Criteria are met and the SHPO/THPO agrees, the property shall be considered eligible for the National Register for section 106 purposes. (36 CFR 800.4(a)-(d))

#### **Environmental Assessment (EA)**

A document prepared for Federally funded transportation projects not grouped as categorical exclusions for which the significance of the environmental impact is not clearly established. (23 CFR 771.115(c), for additional information, see 40 CFR 1508.9). An environmental assessment provides the analysis and documentation to determine if an EIS or a Finding of No Significant Impact should be prepared.

#### **Environmental Impact Statement (EIS)**

A detailed written document for projects which may significantly affect the environment. For additional information, see 40 CFR 1508.11.

#### **Environmental Inventory**

An assessment of the environmental features in a study area. The studies comprising the environmental inventory serve to confirm, identify, and delineate the natural, cultural, and socioeconomic resources and the potential for secondary and cumulative effects in the study area. The levels of quantitative and qualitative data collected for each resource should be relevant to the importance of the resource in the decision-making process, the likelihood of it being affected by one or more of the alternatives, the magnitude of the impact, and pertinent requirements of other regulations.

#### **Environmentally Preferable Alternative**

The alternative that causes the least damage to the biological and physical environment. (FHWA Technical Advisory T 6640.8A).

#### **Essential Fish Habitat**

Those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. (Magnuson-Stevens Fishery Conservation and Management Act, as amended 1996).

## Appendix B

### Definitions (Cont'd)

#### Essential Fish Habitat Assessment

For any Federal action that may adversely affect EFH, except for those activities covered by a General Concurrence, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH. Federal agencies may incorporate an EFH Assessment into documents prepared for other purposes such as ESA Biological Assessments pursuant to 50 CFR part 402 or NEPA documents and public notices pursuant to 40 CFR part 1500. The assessment must contain:

- (i) A description of the proposed action.
- (ii) An analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, including affected life history stages.
- (iii) The Federal agency's views regarding the effects of the action on EFH.
- (iv) Proposed mitigation, if applicable.

If appropriate, the assessment should also include:

- (i) The results of an on-site inspection to evaluate the habitat and the site specific effects of the project.
- (ii) The views of recognized experts on the habitat or species that may be affected.
- (iii) A review of pertinent literature and related information.
- (iv) An analysis of alternatives to the proposed action. Such analysis should include alternatives that could avoid or minimize adverse effects on EFH, particularly when an action is non-water dependent.
- (v) Other relevant information. (Magnuson-Stevens Fishery Conservation and Management Act, as amended 1996).

#### Essential Fish Habitat Conservation Recommendations

Pursuant to section 305(b)(2) of the Magnuson-Stevens Act, Federal agencies must consult with NMFS regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. (Magnuson-Stevens Fishery Conservation and Management Act, as amended 1996).

## Appendix B

### Definitions (Cont'd)

#### **Essential Fish Habitat Consultation**

Sections 305(b)(3) and (4) of the Magnuson-Stevens Act direct the Secretary and the Councils to provide comments and EFH conservation recommendations to Federal or state agencies on actions that affect EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from actions or proposed actions authorized, funded, or undertaken by that agency. (Magnuson Stevens Fishery Conservation and Management Act, as amended 1996).

#### **Field Meeting/Field View**

A meeting held on site to view conditions and features of the study area. (Integrated NEPA/404, 2-16)

#### **Finding of No Significant Impact (FONSI)**

A document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (Section 1508.4), will not have a significant effect on the human environment and for which an Environmental Impact statement will not be prepared. (See 40 CFR 1508.13)

#### **Interagency Review Meeting**

One of several scheduled gatherings held during the transportation project development process to present project studies and data to environmental resource agencies and to receive comments and responses to assist in further project development. Typically, these meetings are held to discuss such data as plans of study, project need analysis, alternatives analysis information, elimination of and selection of alternates, and completed environmental documents. (Integrated NEPA/404)

#### **Joint Public Hearing**

A meeting, held by the DOT and other regulatory agencies designed to afford the public the fullest opportunity to express support or opposition to a transportation project in an open forum at which a record of the proceedings is kept. (Integrated NEPA/404)

## Appendix B

### Definitions (Cont'd)

<b>Joint Public Notice</b>	The primary method used by USACE of advising all interested parties of the proposed activity for which a permit is sought and of soliciting comments and information necessary to evaluate the probable impact on the public interest. (33 CFR parts 320-330).
<b>Least Environmentally Damaging Practicable Alternative</b>	Alternative that is available and capable of being constructed after taking into consideration cost, logistics and existing technology in light of the overall project purpose. (40 CFR 230.10).
<b>Level of Detail</b>	A general term referring to the amount of data collected, and the scale, scope, extent, and degree to which item-by-item particulars and refinements of specific points are necessary or desirable in carrying out a study. Level of detail is an important factor in the quality of a study, the overall study costs, and the length of time needed to perform study work. (Integrated NEPA/404)
<b>Measures of Effectiveness (MOE)</b>	On a project level, measurable indicators of the effectiveness of a proposed alternative in accomplishing the goals established during Purpose and Need and through stakeholder involvement.
<b>Memorandum of Agreement (MOA or MOU)</b>	Written, signed agreement between agencies.
<b>Metropolitan Planning Organization (MPO)</b>	A planning group designated in each urban area of 50,000 population or more which serves as a forum for cooperative decision making, and whose members address Federal aid planning mandates by producing local area transportation plans, transportation improvement programs on an annual or biennial basis, and other strategies to make effective use of existing systems. (Integrated NEPA/404)
<b>Mitigation</b>	Mitigation includes: Avoiding the impact altogether by not taking a certain action or parts of an action.

## Appendix B

### Definitions (Cont'd)

	Minimizing impacts to by limiting the degree or magnitude of the action and its implementation.
	Rectifying the impact be repairing, rehabilitating, or restoring the affected environment.
	Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
	Compensating for the impact by replacing or providing substitute resources or environments. (40 CFR 1508.20)
<b>Notice of Intent (NOI)</b>	A Federal announcement, printed in the Federal Register, advising interested parties that an Environmental Impact Statement will be prepared and circulated for a given project. (Integrated NEPA/404)
<b>Performance Measures</b>	On a process level, measurable indicator of the overall effectiveness of the Mid-Atlantic Transportation and Environment (MATE) streamlining process in achieving transportation and environmental goals.
<b>Permit</b>	Written permission given by a government agency pursuant to law or regulation.
<b>Permit Decision</b>	Issuance or denial of a permit.
<b>Preferred Alternative</b>	The alternative that would fulfill an agency's statutory mission and satisfactorily meet the project Purpose and Need. It is referred to as the preferred alternative prior to the execution of the ROD.
<b>Project Development</b>	A generic term to describe the overall process of advancing a transportation project from concept to reality. Project development typically encompasses

## Appendix B

### Definitions (Cont'd)

#### Public Involvement

those environmental and engineering tasks occurring on the process continuum that includes Planning, Location, Preliminary Design, Final Design, and Construction. (Integrated NEPA/404)

A collective term used for those public activities which present information, seek comments, and which serve to ensure consideration of public opinion. (Integrated NEPA/404) See also 40 CFR 1506.6

#### Purpose and Need

The project purpose is a broad Statement of the overall intended objective to be achieved by a proposed transportation facility. The need is a more detailed explanation of the specific transportation problems or deficiencies that have generated the search for improvements. The explanation of need should be a problem statement discussion, not a solution-oriented discussion. (See NEPA/404, 2-19, 2-20)

In the MATE transportation and environmental streamlining process, one option for obtaining concurrence on Purpose and Need is at the transportation planning stage. The planning level Purpose and Need is developed during the Long Range Planning Process.

The project level Purpose and Need Statement should be developed by the MPO, DOT and other participating agencies for a specific transportation project during the project development process. The project level Purpose and Need Statement should contain more detailed information pertaining to specific traffic data and community issues than the planning level Purpose and Need Statement developed by the MPO.

#### Range of Alternatives

All reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. Mastering NEPA, pg 158) See also 40 CFR 1502.14



## Appendix B

### Definitions (Cont'd)

#### Reasonable Alternative

Alternatives that may be feasibly carried out based on technical and economic factors. An alternative does not become infeasible merely because the project proponent does not like it. (Mastering NEPA, p. 65) See also 40 CFR 1502.14

#### Reconnaissance Survey

This survey is often employed when gathering data to refine a developed historic context—such as checking on the presence or absence of expected property types, to define specific property types or to estimate the distribution of historic properties in an area. The results of a reconnaissance survey should provide a general understanding of the historic properties in a particular area and permit management decisions that consider the sensitivity of the area in terms of historic preservation concerns and the resulting implications for future land use planning. The data should allow the formulation of estimates of the necessity, type and cost of further identification work and the setting of priorities for the individual tasks involved. In most cases, areas surveyed in this way will require re-survey if more complete information is needed about specific properties.

#### Record of Decision (ROD)

A document prepared by the Division Office of the Federal Highway Administration which presents the basis for the decision to select and approve a specific transportation proposal in the transportation project development process. Typically, the Record of Decision identifies the alternative selected in the Final EIS, the alternatives considered, the environmentally preferable alternative, measures to minimize harm, monitoring or enforcement programs, and an item-by-item list of commitments, and mitigation measures. (Integrated NEPA/404) See also 40 CFR 1505.2

#### Regulatory Agency

An agency empowered to issue or deny permits.

#### Resource/Review Agency

Federal and State agencies or commissions which have jurisdictional, and/or administrative responsibilities in a variety of resource areas.

## Appendix B

### Definitions (Cont'd)

<b>Resource Sheds</b>	Known associations between location on landscape and resources, which may provide opportunities for partnering, e.g. watersheds – Chesapeake Bay Program, Cultural Heritage Corridors.
<b>SAMPS – Special Area Management Plan - (Fill Areas)</b>	An EPA program that preserves wetlands and other natural areas, while reducing time involved in the wetlands review process. (USDA Rural Development Website)
<b>Scoping</b>	An open and ongoing process to identify the range of alternatives and impacts and issues to be addressed in the environmental documentation. It considers the views of the public and other agencies.
<b>Secondary (Indirect) Impacts</b>	A general term to define impacts which are caused by a specific action and which take place later in time or further removed in distance, but are still reasonably foreseeable. Secondary effects can be indeterminate, may not be easily recognized, and can be difficult to identify and evaluate. (Integrated NEPA/404) See also 40 CFR 1508.8(b)
<b>Section 7 Consultation</b>	The section of the Endangered Species Act of 1973, as amended, outlining procedures for Federally listed species and designated critical habitats. Federal agencies consult with the Fish and Wildlife Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.
<b>Selected Alternative</b>	The alternative that the DOT formally approves for implementation (i.e. final design and construction) in the ROD following consideration of substantive comments received during circulation of the Final NEPA document.

## Appendix B

### Definitions (Cont'd)

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**State Implementation Plan (SIP)**

State Implementation Plan (SIP) means the portion (or portions) of an applicable air quality implementation plan approved or promulgated, or the most recent revision thereof, under sections 110, 301(d) and 175A of the Clean Air Act (42 U.S.C. 7409, 7601, and 7505a). (23 CFR 450.104)

**Statewide Transportation Improvement Program (STIP)**

A staged, multiyear, statewide, intermodal program of transportation projects which is consistent with the Statewide transportation plan and planning processes and metropolitan plan, TIPs and processes. (23 CFR 450.104)

**Study Area**

An identified amount of land or topography, selected and defined during the engineering or environmental evaluations, which is sufficiently adequate in size to fully analyze and document all impacts and effects for proposed projects. (Integrated NEPA/404)

**Transportation Improvement Program (TIP)**

Transportation improvement program (TIP) means a staged, multiyear, intermodal program of transportation projects which is consistent with the metropolitan transportation plan and prepared by the MPO. (23 CFR 450.104)

**Transportation Project Development Process**

Procedures for advancing a transportation project from concept to construction.



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## **Appendix C**

### **Cooperative Agreements**



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## **Appendix D**

# **Mid-Atlantic Transportation and Environmental Streamlining Framework**

# DATA NEEDS GUIDANCE

for the

## "ENVIRONMENTAL STREAMLINING PROCESS GUIDE"

This document outlines information useful to the development of transportation projects and the evaluation of their impacts, under the MATE streamlining process. The objectives of this guidance are to promote concurrent decisionmaking in transportation projects; to provide regional consistency in the way those projects are developed; and to facilitate the streamlining of the approval and authorization process.

A committed multi-disciplinary/interagency team is required for this approach to work effectively. The initial and most important task of the team is to agree on the level of detail which should be provided for each stage of project development. The team should identify existing environmental data, determine the adequacy of the data, and identify additional information needs. Because all projects are not the same, the determination of which of the listed items apply will be made on a case by case basis.

This data needs guidance is keyed to the steps in the Mid-Atlantic Transportation and Environment Streamlining Framework. Step 1 of the framework (Transportation Planning) is not included in this guidance. The extent of coordination between local planning organizations and state and federal resource agencies during Step 1 will vary; therefore, the degree of involvement and information needs will be determined on a case-by-case basis.

ENVIRONMENTAL ISSUE	Process Steps 2 & 3 - Scoping & Purpose and Need
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>map showing agricultural areas (agricultural easements, active farms, prime and unique farmlands, etc.)</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>National Toxics Inventory, Toxics Release Inventory or local air toxics inventory</li><li>Identification of Transportation Air Quality Mitigation Measures (TAQMM). Examples of TAQMM could include Bus Retrofits, Anti-idling policies, Transportation Demand Management, restriction on diesel engine vehicles, congestion pricing.</li><li>Obtain current MPO programming document and regional air quality conformity analysis data. Address regional conformity as well as project-level conformity when applicable.</li><li>For major highway improvement projects in highly congested metropolitan areas alternative analysis should consider market-based approaches in addition to conventional alternatives. These market-based approaches involve congestion pricing strategies that include but not limited to High Occupancy Toll (HOT) lanes, Variable Tolls on toll roads, Variable Tolls on existing free roads, and Fast and Intertwined Regular (FAIR) lanes, Pricing strategies may be included as alternatives by themselves or as add-ons to the base case alternative or in combination with alternatives involving roadway capacity enhancements.</li></ul>
AQUATIC RESOURCES	<p><b>Wetlands</b></p> <ul style="list-style-type: none"><li>aerial photographs or comparable base mapping showing wetlands</li><li>calculated size of each wetland</li></ul> <p><b>Waters other than Wetlands</b></p> <ul style="list-style-type: none"><li>aerial photographs or comparable base mapping showing other Waters of the U.S., including special aquatic sites other than wetlands</li><li>map showing coastal zone boundaries</li><li>state water classifications</li></ul>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>Purpose and Need statement<ul style="list-style-type: none"><li>accident number/location, type (angle, rear-end, etc.), severity (property damage, injury, death), rate</li><li>Average Daily Traffic (existing, proposed), AM/PM peak hour volumes, travel demand &amp; desire, traffic mix (% cars, trucks), origin/destination, delay time, queue lengths, seasonal volume fluctuations/special event data, Level of Service</li><li>discontinuity of roadway classification, statewide &amp; regional transportation network</li><li>existing &amp; planned highway, transit, aviation, bicycle, and pedestrian facilities, patronage demand surveys</li><li>deficiencies in highway geometry, load limits; pavement surveys; documented drainage problems</li></ul></li><li>map showing study area boundaries &amp; project limits</li></ul>
FISH & WILDLIFE RESOURCES	<p><b>Terrestrial Resources</b></p> <ul style="list-style-type: none"><li>map showing land use cover types (natural areas, grasslands, forest interior habitat, wildlife corridors, winter cover, mature forest, and major forest patch network)</li><li>overlay map showing high quality wildlife habitats (grasslands &gt;40 acres, interior forest patches, wildlife corridors, natural areas, etc.)</li></ul> <p><b>Threatened and Endangered Species</b></p> <ul style="list-style-type: none"><li>map showing known, historic, or potential locations for both state and federally listed species (polygon mapping)</li></ul> <p><b>Fish and Wildlife Species</b></p> <ul style="list-style-type: none"><li>list of primary species using the study area</li><li>map showing Essential Fish Habitat, shellfish beds, and spawning habitat</li></ul>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>map showing known or potential hazardous waste and brownfield sites</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<p><b>Historic</b></p> <ul style="list-style-type: none"><li>map showing listed or previously surveyed properties in study area, including historic standing structures, landmarks, battlefields, and rural historic landscapes, as well as traditional cultural properties</li><li>Initiation of Section 106 consultation, including identification of potential consulting parties, and preliminary Area of Potential Effect (APE).</li></ul> <p><b>Archeology</b></p> <ul style="list-style-type: none"><li>map showing high archeological probability areas in study area, based on best professional judgment, as well as known disturbed areas such as strip mines, borrow sites, dams, etc.</li><li>Initiation of Section 106 consultation, including identification of potential consulting parties, and preliminary Area of Potential Effect (APE).</li></ul>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>map showing physiographic regions or provinces, wellhead protection areas, sole source aquifers, watersheds, floodplains, soil types, limiting rock formations, public water supply locations, etc.</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>map (Andersen Level II mapping or aerial photo) showing <u>existing</u> and <u>future</u> land uses (developed/ undeveloped areas, including residential, commercial, industrial areas, major employment sites, hospitals, universities, schools, shopping centers, government services, parks, recreation and entertainment centers, key community and cultural facilities, fire stations, places of worship, recreational trails, major utilities, water/ sewer, Environmental Justice communities, etc.)</li><li>documentation of any alternative land use scenarios, if available</li><li>existing and forecasted population &amp; employment make-up (income, ethnicity, age, auto/transit dependency, etc.)</li><li>future development potential or trends</li></ul>

ENVIRONMENTAL ISSUE	Process Step 4: Alternatives Development
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>revised mapping, as appropriate, based on public and agency input</li><li>preliminary estimate of impacts</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>no additional products</li></ul>
AQUATIC RESOURCES	<p><b>Wetlands</b></p> <ul style="list-style-type: none"><li>updated mapping showing field-checked wetland boundaries (identified through previous mapping efforts)</li><li>for small study areas or study areas with extensive wetland resources and or seasonally saturated wetlands, it may be prudent to provide detailed wetland mapping based on field evaluation techniques</li><li>Cowardin classification for each mapped wetland resource</li><li>preliminary estimate of impacts</li></ul> <p><b>Waters other than Wetlands</b></p> <ul style="list-style-type: none"><li>comprehensive identification of all aquatic features, including special aquatic sites</li><li>existing water quality information - biological and chemical</li><li>Cowardin or state classifications for each mapped aquatic feature</li><li>dimensions of each feature (width, depth, length and total area)</li><li>preliminary estimate of impacts</li></ul>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>map of environmentally constrained areas</li><li>design speed(s) and facility type (functional classification, access control level)</li><li>map showing general horizontal and vertical geometry of alignments; preliminary access locations; ancillary facility locations (toll plazas, weigh stations, rest areas, transit centers, park &amp; ride lots, etc.); general structure locations and types; right-of-way band width including constrained areas</li><li>diagrams showing typical sections (number and width of lanes, shoulder width, median width, closed vs. open section (drainage), pedestrian/bike facilities, HOV/bus lane location and width)</li><li>Transportation Demand Management and Transportation Systems Management strategies</li><li>preliminary cost estimate(s)</li></ul>
FISH & WILDLIFE RESOURCES	<p><b>Terrestrial Resources</b></p> <ul style="list-style-type: none"><li>field verified aerial photograph or map showing high quality wildlife habitat (i.e., grasslands, interior forest, mature forest, wildlife corridors, winter cover, major forest patch networks, etc.)</li><li>plant species composition and structural diversity for each preliminary corridor</li><li>preliminary estimate of impacts</li></ul> <p><b>Threatened and Endangered Species</b></p> <ul style="list-style-type: none"><li>map showing the locations of extant populations or habitats for all listed species</li><li>surveys of potential habitat, to establish occurrence or absence of listed species</li><li>preliminary estimate of impacts</li></ul> <p><b>Fish and Wildlife Species</b></p> <ul style="list-style-type: none"><li>refined list of primary species, based on alternatives developed</li><li>map showing high quality fish habitat</li><li>preliminary estimate of impacts</li></ul>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>revised mapping, as appropriate, based on public and agency input</li><li>preliminary estimate of impacts</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<p><b>Historic</b></p> <ul style="list-style-type: none"><li>historic context (type of resources expected to be within the study area, such as rural historic landscapes; traditional cultural properties; transportation corridors; commercial, residential and historic districts; etc.)</li><li>preliminary identification of potential historic structures (based on a windshield survey), depending on the type and size of the project</li><li>map showing probable Section 4(f) resources in the study area</li><li>preliminary estimate of impacts</li></ul> <p><b>Archeology</b></p> <ul style="list-style-type: none"><li>geomorphologic survey results</li><li>archeological predictive model based on archeological context</li><li>map showing preliminary Limits of Disturbance</li><li>map showing probable Section 4(f) resources in the study area</li><li>preliminary estimate of impacts</li></ul>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>preliminary estimate of impacts</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>revised mapping, as appropriate, based on public and agency input</li><li>map showing probable Section 4(f) resources in the study area</li><li>documentation of ownership, jurisdiction, recreation plans and covenants for publicly owned parks and recreation facilities</li><li>documentation of management plans for large multiple-use properties such as state and national forests, wildlife management areas, etc.</li><li>map showing Noise Sensitive Areas and/or receptors (homes, apartment complexes, hospitals, nursing homes, parks, etc.) within 500' to 1000' of alternative alignments</li><li>preliminary estimate of impacts</li></ul>



ENVIRONMENTAL ISSUE	Process Step 5: Detailed Alternative Analysis & Draft NEPA Document <div>Comparative analysis of potential impacts (by alternative) is performed for each resource, and the results are summarized in the draft environmental document.</div>
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>refined preliminary estimate of impacts, including direct and indirect impacts to farm parcels and operations, as well as prime and unique farmland</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>Identification of sensitive receptors areas with close proximity (100m or less) to the project.study area. Sensitive receptors areas are areas where the subpopulation (including the elderly and children) may be at risk to potential exposure. These sensitive receptor areas could include: schools, daycares, hospitals, residential areas (including Environmental Justice areas) and nursing homes</li><li>Identification of Construction Air Quality Mitigation Measures (CAQMM). Examples of CAQMM could include: reducing the amount of construction, using alternative fuel vehicle (including biofuels), use of low sulfur duel, retrofit diesel equipment, Anti-idling policies, keeping construction far from people</li><li>Comparative emission analysis (construction and operation) of the alternatives</li><li>Applicable to Transportation Management Areas (TMAs) for additional traffic or capacity. Congestion Management System ICMS) shall be considered in evaluating Transportation System Management (TSM) and Transportation Demand Management (TDM) strategies. Include TSM and TDM commitments in environmental documents. The CMS is intended to be a systematic way of monitoring, measuring and diagnosing the causes of congestion on a region's multi-modal transportation systems; evaluating and recommending alternative strategies to manage or mitigat regional congestion; and monitoring and evaluating the performance of strategies implemented to manage or mitigate congestion.</li></ul>
AQUATIC RESOURCES	<div>Note: Jurisdictional determination by USACE of aquatic resource mapping (wetlands and other waters); depends on project timing and study area or type of resources - determine earlier in order to receive permit earlier</div> <div><b>Wetlands</b><ul style="list-style-type: none"><li>map showing field identification of wetlands by project sponsor, both location and extent using 1987 USACE Wetland Delineation Manual (USACE may require a jurisdictional determination for all alternatives depending on the project and the type, quantity, and quality of wetlands)</li><li>functional assessment of all wetlands, based on an assessment methodology to be determined by the team (specific info. regarding characteristics of wetlands, including biotic communities/species composition, hydrology, unique features, etc.)</li><li>size and impact information for each affected wetland (acres, square feet)</li><li>secondary and cumulative impacts of actions, such as isolation, fragmentation, alteration of hydrology (for each wetland affected)</li><li>wetland avoidance and minimization measures for each alternative</li><li>for wetland compensatory mitigation, description and mapping of potential mitigation sites or opportunities in the watershed (in the draft NEPA document)</li><li>mitigation commitments, including acreage ratios for wetland replacement (in the draft NEPA document)</li></ul></div> <div><b>Waters other than Wetlands</b><ul style="list-style-type: none"><li>map showing field identification of other waters, both location and extent</li><li>characteristics/descriptions of all waters (dynamics, structure, riparian zone characteristics, water quality, etc., including any state stream classification)</li><li>crossing types: bridges or culverts, length, width, height and alignment (perpendicular or parallel )</li><li>impacts to FEMA mapped floodplains and floodways</li><li>channelization locations and dimensions</li><li>stream relocation locations, dimensions, and type/quality of habitat affected by proposed relocation</li><li>bank stabilization locations and dimensions</li><li>secondary and cumulative impacts to other waters at all crossings</li><li>avoidance and minimization measures for waters</li><li>for compensatory mitigation, description in NEPA document of potential opportunities in the watershed for stream and water quality improvements, including stream bank fencing, restoration of riparian corridors, etc.</li></ul></div>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>map(s) showing refined horizontal and vertical alignments, with curve data and stationing, (including impact avoidance, minimization and compensation)</li><li>refined typical section(s) and intersection/interchange configurations</li><li>approximate cross-sections in constrained areas</li><li>potential stormwater management locations and approximate sizes and preliminary hydraulic and hydrology studies</li><li>conceptual maintenance of traffic</li><li>refined structure type/size/location details (bridge and/or culvert lengths, widths, and heights; pier and abutment locations; etc.)</li><li>potential locations of noise barriers and retaining walls</li><li>refined cost estimates</li><li>assessment of constructability issues</li></ul>
FISH & WILDLIFE RESOURCES	<div><b>Terrestrial Resources</b><ul style="list-style-type: none"><li>documentation of wildlife habitat quality (species diversity, structural diversity, wildlife occurrence), based on field assessments of each alignment</li><li>Habitat Evaluation Procedure (HEP) or other habitat functional assessment, as appropriate</li><li>map showing alignments refined to avoid and minimize impacts to high quality wildlife habitat</li><li>description of potential measures to maintain/re-establish travel corridors between quality wildlife habitats through passage structures</li><li>compensatory mitigation plans for all unavoidable impacts to high quality wildlife habitat</li><li>analysis of impacts to wildlife habitat, including secondary and cumulative effects, as necessary</li></ul></div> <div><b>Threatened and Endangered Species</b><ul style="list-style-type: none"><li>map showing alignments refined to avoid and minimize impacts to all known or potential habitat for listed species</li><li>analysis of impacts to T&amp;E species, including secondary and cumulative effects, as necessary</li></ul></div> <div><b>Fish and Wildlife Species</b><ul style="list-style-type: none"><li>analysis of potential impacts to primary fish and wildlife species, including secondary and cumulative effects, as necessary</li><li>analysis of potential impacts to Essential Fish Habitat and associated species, including surveys as needed</li></ul></div>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>documentation of contaminated media, including nature, concentration and extent of contamination</li><li>secondary and cumulative effects analysis, as necessary</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<div><b>Historic</b><ul style="list-style-type: none"><li>map showing APE, refined based on alternatives carried through for further study</li><li>detailed identification abd evaluation structures survey (type of resource such as historic district, landscape, properties, etc.; characteristics which make each resource eligible; map(s) showing the boundary of any identified eligible resource depending on the type and size of the project)</li><li>documentation of SHPO concurrence on APE, National Register eligibility and potential effects</li><li>evaluation of alternatives or alternative modifications which totally avoid Section 4(f) resources</li><li>secondary and cumulative effects analysis, as necessary</li></ul></div> <div><b>Archeology</b><ul style="list-style-type: none"><li>map showing Limits of Disturbance</li><li>map showing APE, refined based on alternatives carried through for further study</li><li>Phase I survey results (presence or absence of archeological resources through literature searches, spot shovel tests, etc.)</li><li>Phase II survey results (National Register Eligibility, vertical and horizontal limits)</li><li>documentation of SHPO concurrence on APE, National Register eligibility and potential effects</li><li>evaluation of alternatives or alternative modifications which totally avoid Section 4(f) and National Register eligible sites</li><li>secondary and cumulative effects analysis, as necessary</li></ul></div>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>geo-technical studies as necessary (identification of acid bearing rock, hydrogeology, important structural features, etc.)</li><li>secondary and cumulative effects analysis, as necessary</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>community impact assessment, including:<ul style="list-style-type: none"><li>public buildings/space</li><li>residences by type of housing (single family, low-density multiple housing, and heavy multiple housing)</li><li>major employment sites</li><li>Title VI, EJ and other population groups</li><li>travel patterns and transportation choices between origin and destinations</li><li>community and cultural factors such as concentrations of elderly, disabled, religious groups, etc.</li><li>provision of community services, such as ambulance, fire and police services</li><li>community cohesion</li><li>residential, commercial, industrial and community facility displacements</li><li>disproportionate adverse impacts to minority and low-income populations (EJ)</li><li>noise analysis report, including the potential for noise abatement and mitigation measures</li><li>sensitive visual "sites" and potential vistas, such as parks, stream crossings, communities, wild and scenic rivers, scenic roads, etc.</li></ul></li><li>evaluation of alternatives or alternative modifications which totally avoid Section 4(f) resources</li><li>secondary and cumulative effects analysis, as necessary</li></ul>

ENVIRONMENTAL ISSUE	Process Step 6: Identification of Preferred Alternative & Conceptual Mitigation <small>Refined comparative analysis of potential impacts (by alternative) is provided for each resource based on public and agency input on the draft environmental document.</small>
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>• measures to address farm operational impacts</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>• Documentation of Toxic considerations in the selection process</li><li>• Documentation of TAQMM of the alternatives</li><li>• Documentation of CAQMM of the alternatives</li></ul>
AQUATIC RESOURCES	<p>Note: Jurisdictional determination by USACE of aquatic resource mapping (wetlands and other waters); depends on project timing and study area or type of resources - determine earlier in order to receive permit earlier</p> <p><b>Information necessary for the USACE to determine the Least Environmentally Damaging Practicable Alternative</b></p> <ul style="list-style-type: none"><li>• copies of all public comments received on Draft NEPA Document/Joint Public Notice (when requested by USACE), with applicant's review and response to each issue raised</li><li>• comparative information on how successfully the alternatives address purpose and need</li><li>• comparative analysis of impacts to natural, cultural and socioeconomic resources, based on best available engineering information</li><li>• comparative analysis of cost and engineering feasibility, safety, and other information needed for practicability determination</li><li>• project sponsor's preliminary Section 404(b)(1) analysis for their preferred alternative (refer to 404(b)(1) Guidelines)</li><li>• description of avoidance and minimization activities, such as the steps taken at each crossing to avoid or minimize impacts to aquatic resources</li><li>• results of secondary and cumulative effects analysis, including effects of discharges of fill material on the hydrology of adjacent aquatic resources (fragmentation, damming, isolation, etc.)</li><li>• conceptual stormwater management design, including piping, basins and other drainage facilities</li><li>• comparative availability (by project alternative) of suitable compensatory mitigation for unavoidable project impacts</li><li>• conceptual aquatic and terrestrial mitigation plan for unavoidable project impacts<ul style="list-style-type: none"><li>a. wetlands<ul style="list-style-type: none"><li>1 - location maps of sites</li><li>2 - availability &amp; willingness of land owners</li><li>3 - restoration, creation, enhancement, and preservation components of preliminary plan [including identification of threats (development pressure) to any proposed preservation areas]</li><li>4 - reference wetland information used for mitigation site design</li><li>5 - goals and objectives of the mitigation plan, including benefits to the associated watershed</li><li>6 - land use plans for the surrounding area</li><li>7 - water budget</li><li>8 - construction plans &amp; design specs, including excavation, grading, hydrologic alteration and soil amendment and planting details</li><li>9 - performance standards</li><li>10 - post-construction monitoring protocol</li><li>11 - long-term stewardship plan identifying the projected ownership and a conservation easement over the site (such as to non-profit conservation organization) to protect environmental values in perpetuity</li><li>12 - abatement/control plan for undesirable/invasive plant and animal species</li></ul></li><li>b. stream enhancement/restoration plan, including location maps of sites and conceptual design detail</li><li>c. terrestrial wildlife mitigation plan (corridor preservation, passage structures, other compensatory measures), including location maps of sites and conceptual design detail</li><li>d. permanent land protection mechanisms for all proposed mitigation sites</li><li>e. threatened and endangered species clearance for all compensatory mitigation sites</li><li>f. Section 106 clearance for compensatory mitigation sites</li></ul></li></ul>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>• revised mapping and documentation of environmental impacts, as appropriate, based on public and agency input</li><li>• mapping and documentation of potential borrow and disposal sites, as well as construction staging areas, if appropriate</li></ul>
FISH & WILDLIFE RESOURCES	<p><b>Terrestrial Resources</b></p> <ul style="list-style-type: none"><li>• terrestrial habitat mitigation plan, such as corridor preservation, habitat assessment, etc.</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul> <p><b>Threatened and Endangered Species</b></p> <ul style="list-style-type: none"><li>• project design changes to avoid impacts (based on informal consultation)</li><li>• measures to minimize harm or compensate for unavoidable impacts</li><li>• biological assessment for federally listed species, based on formal consultation with FWS and/or NMFS</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul> <p><b>Fish and Wildlife Species</b></p> <ul style="list-style-type: none"><li>• refined Essential Fish Habitat information for preferred alternative, as needed</li><li>• compensatory measures for specific species, such as passage structures, countersinking of culverts, etc.</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>• documentation of hazardous waste plumes and type(s) of pollutants, if appropriate</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<p><b>Historic and Archeology</b></p> <ul style="list-style-type: none"><li>• completed Phase II evaluation level survey and concurrence on eligibility, if not completed in previous step</li><li>• consultation on effects; identification of potential avoidance, minimization, and/or mitigation measures, as appropriate</li><li>• if Adverse Effects are anticipated, notification to the Advisory Council on Historic Preservation; draft documentation of finding of effects, and MOA or programmatic agreement as necessary</li><li>• for Section 4(f), documentation of coordination with consulting parties and with officials having jurisdiction over the resources</li><li>• refined secondary and cumulative effects analysis, as necessary</li><li>• concurrence on finding of effect</li></ul>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>• studies as needed, if project issues warrant additional details on groundwater, geology, acid bearing rocks, cut and fill information, etc.</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>• documentation of any changes in impacts from alternatives raised by the public or agencies</li><li>• documentation of any mitigation measures developed to address issues raised by the public or agencies</li><li>• for Section 4(f), documentation of coordination with officials having jurisdiction over the resources</li><li>• refined secondary and cumulative effects analysis, as necessary</li></ul>

ENVIRONMENTAL ISSUE	Process Step 7: Final NEPA Document Documentation of changes in impacts or mitigation measures, resulting from agency and public input, is refined/updated.
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>documentation of public input</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>Documentation of the Toxic consideration including the construction of the proposed action</li><li>Re-check regional air quality analysis and obtain current MPOI programming document to ensure no major changes occurred due to the passage of time</li></ul>
AQUATIC RESOURCES	<p>Note: Jurisdictional determination by USACE of aquatic resource mapping (wetlands and other waters); depends on project timing and study area or type of resources - determine earlier in order to receive permit earlier</p> <ul style="list-style-type: none"><li>USACE Jurisdictional Determination for LEDPA/preferred alternative, if not previously accomplished</li><li>documentation of information submitted to USACE for their decision on the LEDPA/preferred alternative (to be presented in the Final NEPA document [see information identified in Step 6])</li><li>documentation of public input</li></ul> <p>Note: If the project sponsor requests a USACE permit decision (see Step 10) at the time of the FHWA Record of Decision (ROD) or Finding of No Significant Impact (FONSI), then information needed for a USACE permit decision must be provided in the Final NEPA document</p>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>data necessary to address public and agency comments on the draft NEPA document</li><li>documentation of prior work and ongoing coordination</li><li>legal sufficiency review of FEIS by FHWA</li></ul>
FISH & WILDLIFE RESOURCES	<p><b>Terrestrial Resources</b></p> <ul style="list-style-type: none"><li>refined/updated terrestrial habitat mitigation plan</li><li>documentation of public input</li></ul> <p><b>Threatened and Endangered Species</b></p> <ul style="list-style-type: none"><li>refined/updated measures to minimize harm or compensate for unavoidable impacts</li><li>finalized biological assessment for federally listed species</li><li>biological opinion prepared by FWS or NMFS, if necessary</li><li>documentation of public input</li></ul> <p><b>Fish and Wildlife Species</b></p> <ul style="list-style-type: none"><li>refined/updated terrestrial fish and wildlife mitigation plan</li><li>documentation of public input</li></ul>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>preliminary remediation plan</li><li>documentation of public input</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<p><b>Historic and Archeology</b></p> <ul style="list-style-type: none"><li>executed MOA (prior to Step 8)</li><li>legal sufficiency review of Section 4(f) evaluation by FHWA attorneys</li><li>documentation of public input</li></ul>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>documentation of public input</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>legal sufficiency review of Section 4(f) evaluation by FHWA attorneys</li><li>documentation of public input</li></ul>

ENVIRONMENTAL ISSUE	Process Step 8: Record of Decision
FHWA/DOT REQUIREMENTS	<ul style="list-style-type: none"><li>• decision on selected alternative - reference draft and final NEPA document</li><li>• Section 4(f) discussion</li><li>• environmentally preferred alternative/LEDPA</li><li>• measures to minimize harm</li><li>• mitigation commitments</li><li>• monitoring and enforcement programs/activities</li><li>• data necessary to address substantive public or agency concerns on the FEIS</li></ul>

ENVIRONMENTAL ISSUE	Process Step 9: Project Design & Final Minimization and Mitigation Coordination
AQUATIC RESOURCES	<ul style="list-style-type: none"><li>• final compensatory mitigation design plans, including final version of all items listed (as part of mitigation plans) in Step 6</li><li>• see information listed in Step 10</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>• Document all mitigation measures are included final design</li></ul>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>• refined design plans (1" = 50', etc.)</li><li>• Mitigation Report and avoidance details (to be integrated into design)</li><li>• data needed for reevaluation of final NEPA document</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<ul style="list-style-type: none"><li>• design plans incorporating any avoidance/minimization measures and other commitments as described in the executed MOA</li></ul>



ENVIRONMENTAL ISSUE	Process Step 10: Final Permit Decision
	This step may occur at the time of the ROD, depending on the project and the level of design available.
AQUATIC RESOURCES	<b>Information Necessary to Make a USACE Permit Decision</b> <ul style="list-style-type: none"><li>project plans at scale determined by the team, with the following information color-coded:<ul style="list-style-type: none"><li>existing road (if the project is a road widening)</li><li>proposed road right-of-way and limits of all permanent construction activities (including cut and fill lines)</li><li>temporary impacts, including those outside of right-of-way (staging areas, construction access, causeways, mats, etc.)</li><li>typical roadway sections</li><li>USACE verified jurisdictional limits (mean high water, ordinary high water, upland/wetland boundary lines)</li><li>design details for all fills and structures at all crossings of Waters of the US (invert/outlet elevations, dimensions, slope, grade, countersinking, abutment locations, etc.)</li><li>slope protection/stream bank stabilization activities (riprap, gabions, etc.)</li><li>design details of all channelization activities, relocated waterways, and stormwater management facilities</li></ul></li><li>tables showing calculations of all proposed impacts to Waters of the US, categorized for each crossing by resource classification (Cowardin) and construction activity (fill, excavation, structure, etc.); include secondary and cumulative impacts to Waters of the US</li><li>documentation demonstrating how each impact to Waters of the US was minimized to the maximum extent practicable</li><li>final compensatory mitigation design plans (see Step 6)</li><li>identification of borrow and waste sites, including potential impacts, if available</li><li>resolution of issues associated with proposed impacts to federally listed threatened and endangered species, Essential Fish Habitat, and Section 106 properties</li><li>engineering details (see Engineering Information block)</li></ul>
ENGINEERING INFORMATION	<b>Design Details Refined to Level Required for Permit Decision</b> <ul style="list-style-type: none"><li>plans showing:<ul style="list-style-type: none"><li>existing road locations</li><li>USACE verified jurisdictional limits (mean high water, ordinary high water, upland/wetland boundary lines)</li><li>final horizontal and vertical alignments in USACE verified jurisdictional Waters of the US, including wetlands</li><li>final structure type, size, &amp; location details (pier locations, piles, limits of disturbance) within USACE verified limits</li><li>final typical sections (cut and fill lines, limits of construction/disturbance, right-of-way width, lane/sidewalk/median widths, etc. )</li><li>management of traffic &amp; phasing details, if required</li><li>Mitigation Report and details, integrated into design</li></ul></li></ul>
FISH & WILDLIFE RESOURCES	<b>Threatened and Endangered Species</b> <ul style="list-style-type: none"><li>biological opinion (by FWS or NMFS), if not previously prepared</li></ul>

Process Step 11: Project Implementation and Monitoring
<ul style="list-style-type: none"><li>project construction schedule</li><li>mitigation status reports (wetlands, threatened and endangered species, cultural resources, etc.), as needed</li><li>monitoring and enforcement activities</li></ul>

ENVIRONMENTAL ISSUE	Data Sources
AGRICULTURAL RESOURCES	<ul style="list-style-type: none"><li>• NRCS soil surveys</li><li>• aerial photographs</li><li>• county data bases</li><li>• state Department of Agriculture maps</li><li>• farmland assessment reports</li><li>• interviews with farm owners/operators</li><li>• public input</li></ul>
AIR QUALITY	<ul style="list-style-type: none"><li>• state Air Quality Office</li><li>• Long Range Plan/Transportation Improvement Plan</li></ul>
AQUATIC RESOURCES	<ul style="list-style-type: none"><li>• USGS mapping</li><li>• National Wetland Inventory Maps</li><li>• NRCS soil surveys</li><li>• infrared aerial photographs</li><li>• state/federal natural resource agencies</li><li>• existing surveys, studies and published reports on species occurrence and water quality</li><li>• field view(s)</li><li>• 1987 USACE Wetland Delineation Manual</li><li>• 404(b)(1) Guidelines (or checklist when available or appropriate)</li><li>• public input</li></ul>
ENGINEERING INFORMATION	<ul style="list-style-type: none"><li>• AASHTO design manual</li><li>• state DOT design manuals</li><li>• functional classification maps</li><li>• existing origin and destination studies</li><li>• travel demand modeling results</li><li>• existing transit routes</li><li>• </li><li>• state greenway maps</li><li>• state bikeway plan</li><li>• DOT staff (planners, engineers, travel forecasters, etc.)</li><li>• local master plans</li><li>• zoning maps</li><li>• employee database information from major employers</li><li>• existing employer TDM agreements</li><li>• committed capital projects in study area</li><li>• historic real estate values</li><li>• state DOT cost estimate guidelines</li><li>• public input</li></ul>
FISH & WILDLIFE RESOURCES	<b>Terrestrial Resources</b> <ul style="list-style-type: none"><li>• Andersen Land Use classifications for cover types</li><li>• field view(s)</li><li>• public input</li></ul> <b>Threatened and Endangered Species</b> <ul style="list-style-type: none"><li>• state/federal natural resource agencies</li><li>• data collected through informal consultation with FWS and/or NMFS</li><li>• public input</li></ul> <b>Fish and Wildlife Species</b> <ul style="list-style-type: none"><li>• NMFS</li><li>• state natural resource agencies</li><li>• </li><li>• public input</li></ul>
HAZARDOUS WASTE & BROWNFIELDS	<ul style="list-style-type: none"><li>• various lists (RCRA, CERCLA, National Priority List, etc.)</li><li>• EPA databases and website</li><li>• state lists and data bases</li><li>• field visit (to identify gas stations, drycleaners, etc.)</li><li>• public input</li></ul>
CULTURAL RESOURCES - HISTORIC & ARCHEOLOGY	<ul style="list-style-type: none"><li>• existing inventories</li><li>• SHPO and THPO (mapping, existing inventory forms, etc.)</li><li>• windshield surveys and field views</li><li>• county historic commissions</li><li>• local historical societies</li><li>• public input (resource identification, impacts from alternatives, etc.)</li></ul>
PHYSIOGRAPHY	<ul style="list-style-type: none"><li>• </li><li>• Digital Raster graphics, digital line graphs, digital elevation models</li><li>• NRCS soil surveys</li><li>• state or local authorities</li><li>• USGS or state aquifer or groundwater maps/studies</li><li>• </li><li>• EPA sole source aquifer designations</li><li>• USGS Hydrologic Unit maps at 8 digit unit codes</li><li>• </li><li>• FEMA floodplain and floodway maps and studies</li><li>• county geological survey maps</li><li>• public input</li></ul>
SOCIAL/ ECONOMIC	<ul style="list-style-type: none"><li>• local planning offices</li><li>• local master plans and zoning maps</li><li>• census data (tracts or blocks)</li><li>• tax maps</li><li>• legislative directives</li><li>• updated and verified traffic data (for noise studies)</li><li>• public input, including opinion surveys</li></ul>